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Containing descriptions of new species of fossils from the Potsdam, Jurassic and Cretaceous formations of the Black Hills of Dakota. 8vo, pp. 49. Washington, 1877. From J. W. Powell.

Note additionélle au Mémoire sur les Phénomènes de la Digestion chez les Insectes (publie en 1874). Par Felix Plateau, Bruxelles, 1877. 8vo, pp. 25. From the author.

Recherches sur la Structure de l'Appareil Digestif et sur les Phénomènes de la Digestion chez les Araneides Dipneumones. Par Felix Plateau, Bruxelles, 1877. 8vo, pp. 136, 3 plates. From the author.

L'Instinct des Insectes, Peut-il être mis en Défaut par des Fleurs Artificielles? By M. Felix Plateau, Paris, 1876. 8vo, pp. 6.

Association Française pour l'avancement des Sciences, Congrès de Clermont—Terrand. Séance du.21 Août, 1876.

Geological Survey of Canada. Report of Progress for 1876–77. Alfred R. Selwyn, Director. Montreal, 1878. 8vo, pp. 515. Maps and illustrations. From the author.

Notes on the North American Caridea in the Museum of the Peabody Academy of Science, Salem, Mass. By J. S. Kingsley. (From the Proc. of the Academy of Natural Sciences of Philadelphia.) 8vo, pp. 19. From the author.

Entomological Notes. VI. By S. H. Scudder. (From the Proceedings of the Boston Society of Natural History, Vol. xix, 1877–78.) 8vo, pp. 51, 1 plate.

Smithsonian Contributions to Knowledge, 318. On the Remains of Later Pre-Historic Man, obtained from caves in the Catherina Archipelago, Alaska Territory, and especially from the caves of the Aleutian Islands. By W. H. Dall. Washington, 1878. 4to, pp. 40, 10 plates.

On Distomum crassicolle Rud.; with brief notes on Huxley's proposed Classification of Worms. (Memoirs read before the Boston Society of Natural History, February 21, 1877.) By Charles S. Minot. 4to, pp. 12, 1 plate.

On the Respiration of Amia. By Burt G. Wilder. (From the Proceedings of the American Association for the Advancement of Science, Nashville Meeting, August, 1877.) 8vo, pp. 8.

On the Annual Deposit of the Missouri river, during the Post-Pliocene. By J. E. Todd. (From the Proceedings of the American Association for the Advancement of Science, Vol. xxvi, August, 1877.) 8vo, pp. 5.

Jahres-Berichtdes Naturhistorischen Vereins von Wisconsin für das Jahr, 1877–78. Milwaukee, 1877. 8vo, pp. 17.

Brehm's Thierleben. Band. 4, Heft 1–3. Band 10, Heft 11. New York, B. Westermann & Co. 8vo, 40 cents a Heft.

Notice of the Discovery of the position of the Crural Processes in the genus Atrypa. By William Gurley. (Read before the American Philosophical Society, March, 1878). 8vo, pp. 2, 1 plate.

Cotton and the Principal Insects. etc., frequenting or injuring the Plant in the United States. Written and etched by Townend Glover. Washington, 1878. 4to, pp. 21, 22 plates.

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GENERAL NOTES.

BOTANY.

FERNS, IN THEIR HOMES AND OURS.[1]—We have often deplored the scarcity in this country, of popular handy books upon scientific topics. In England and on the continent, there is hardly a single department of natural science which has not, by means of low-priced manuals, received illustration at the hands of compe-

[1] Ferns in their Homes and Ours. By John Robinson. Salem, S. E. Cassino. 1878. 12mo, pp. 178.

tent men. Mr. John Robinson, long and very favorably known in New England as an amateur cultivator of ferns, an enthusiastic collector, and a pleasing teacher, has initiated a series which may supply the needed want. In the narrow limits of small pages and in an easy style, the author has brought before the reader a fund of information respecting ferns and their habits. There is little to criticise in the creditable accomplishment of this praiseworthy task. The volume is a timely contribution to a neglected portion of the field. Of late, we have been much favored by new books on Ferns: Prof. Eaton's Ferns of North America, Mr. Williamson's Ferns of Kentucky, Mr. Meehan's Native Flowers and Ferns, are all heartily welcomed. They admirably fill their several places, but are not one whit encroached upon by Mr. Robinson's Ferns. His work, in a manner, supplements all the rest.—*G. L. G.*

A TREE WITH TWO STUMPS.—This would be nothing remarkable in the home of the banyan and mangrove, but in higher latitudes and especially in the dryer regions of the Mississippi valley it is strange enough to interest all observers.

Near Tabor, Fremont Co., Iowa, on the farm of Mr. John Rhodes, there stands a Bass-wood (*Tilia americana*), presenting the anomalous form of a vigorous trunk seventy-five feet high rising from two perfectly distinct stumps, about ten feet apart.

The stumps are of nearly equal size, and are narrower seen from the north-east. About six feet from the ground the cross section is fifteen by eighteen inches. The centers of the stumps are about ten feet apart at the surface of the ground. The timber has been cleared from around the tree so that it has attracted more attention recently, but Mr. Rhodes informs the writer that when he came into the country twenty-five years ago, the features of this tree were the same as at present, except that the whole was smaller. The upright stem was then only four or five inches in diameter. Two smaller trees connected with it have been cut down.

How may this strange growth be explained? The idea that it may have resulted from a seed sprouting upon a large log and sending roots down on both sides is forbidden by the height and breadth of the arched base. Logs of such size are not known in this country. It could not have been produced by any washing away of the soil, for it is on a nearly even and uniformly sloping hillside. The idea of its being formed by the growing together of two trees is extremely improbable, considering the angle at which the stumps unite. There seems but one other supposition possible, viz: that a young tree was in some way bent over till its top was rooted in the earth, while one of its branches embodied the upward vigor of the tree. This theory is strengthened by the fact that the eastern stump sends out more prominent roots, as appears at the surface of the ground, also by the leaning of the lower part of the trunk toward the west.

What caused such a planting of the top of a tree in the ground can only be conjectured. It was done before any white man's axe felled a tree to crush it down. Perhaps some early trapper bent it down for a night's shelter, but more probably the wind overthrew the tree, which forced the young bass-wood to the ground and held it there. This case shows, as is not often seen, how the functions of the stem may be completely reversed, as in the western half of this arched base. It is the more interesting in every respect, because it is probably the work of natural forces unaided by man.—*J. E. Todd, Tabor College, May* 2, 1878.

BOTANICAL NEWS.—Messrs. Ivison, Blakeman, Taylor & Co., have issued Professor Gray's Synoptical Flora of North America. Vol. II. Part I. Gamopetalæ after Compositæ. It forms the first installment of the long expected continuation of Torrey & Gray's "Flora of North America."——Two parts have appeared of Meehan's "The Native Flowers and Ferns of the United States," the plates printed in colors by Prang & Co., Boston, from designs by A. Lunzer.——The *Bulletin* of the Torrey Botanical Club for June, contains notes on Vitis by Dr. Engelman; on *Botrychium simplex* in Massachusetts, by G. E. Davenport; Mr. Britton contributes a table of observations on the appearance of the leaves of shrubs and trees on Staten Island. A notice of Williamson's Ferns of Kentucky, speaks favorably of it as a convenient and excellent work.——The *Botanical Gazette* for June contains notes on the vitality of the seeds of *Datura tatula*, by T. C. Porter; on the plants of Indian Territory, by A. Wood; on polygamous flowers in Populus, by G. E. Davenport; on the distribution of certain plants in Missouri, by G. C. Broadhead (concluded in July number); and on Monotropa uniflora, by R. E. Kunze. The July number prints a letter from A. Fendler, on the botany of the Island of Trinidad. Mr. G. J. Lemmon contributes an amusing article on honorary names in scientific nomenclature. The same number contains advance descriptions of two new species of *Baptisia*, *B. calycosa* Canby, from St. Augustine, Fla., and *B. sulphurea* Engelmann, apparently from Missouri. The August number contains a list of the plants of Indian Territory, by G. D. Butler.——Among the articles in Trimen's *Journal of Botany* is a new key to the genera of Amaryllidaceæ, by J. G. Baker. An Arabis and a large Cincus were found growing, by F. V. Dickens, among the cinders almost at the summit of the volcano of Fusi in Japan, which is 12–13000 high. The number of visits paid during the year 1877, to the herbarium of the British Museum for scientific inquiry or research was 1297. Caruel's Vegetable Morphology is noticed as being fresh and original, with figures mostly original. At a meeting of the Linnæan

Society, April 4th, a paper was read by M. C. Cooke, on a collection of fungi, from Texas, collected by Mr. Ravenel some years ago; the series was small.——*Grevillea* for June contains Ravenel's American Fungi, including, the species issued in the first and second centuries of Ravenel's "American Fungi," with other species, collected at the same time, in insufficient quantities for distribution. Two elaborate monographs on the vine disease; one, published in Italy, by Pirotta, and the other in Austria, by Baron Thälmen, are noticed critically. A valuable article on the salmon disease, due to *Saprolegnia ferax*, which is common on the gold-fish, in aquaria, by W. G. Smith, is reprinted from the Gardener's Chronicle.——The last (20th) volume of Memoirs of the Société National des Sciences Naturelles de Cherbourg, only lately received, contains a life of the eminent botanist, Thuret, by Dr. E. Bornet, with researches on the development of buds in the Equisetaceæ or horse-tails, by E. de Janczewski, while the same author contributes notes on the development of the cystocarpe in the Florideæ, a contribution to the study of the mode of fecundation of the algæ. An essay of one hundred pages, on the industrial plants of Oceania, by Mr. H. Jouan possesses a good deal of practical interest.

ZOÖLOGY.[1]

Notes on a New Jersey Carpenter-bee.—A species of carpenter-bee (*Xylocopa virginica*) is very abundant in southern New Jersey, gnawing its tunnels most often in rails or fences, but frequently in parts of houses, so that it sometimes becomes a nuisance. As many as fifteen holes I once counted in a single rail, but these were the accumulation of years. The main part of the tunnel runs lengthwise with the grain. There are usually two, but sometimes three, branch tunnels, having a common opening.

I have often wondered how the insect, when fully developed, escapes from the nest in which it has undergone its transformations. Since the egg first laid is in the bottom cell, if the insect from this egg develops soonest it would have to gnaw its way out through the wood (as Reaumur states is the case with the French species *X. violacea*), or, scramble through the tunnel to the opening, to the dismay perhaps of the other bees. On examining a nest in January, 1877, containing five bees, fully formed, I found that the bee nearest the opening was of the darkest color—there being a regular gradation in color from this bee to the lightest colored one at the termination of the tunnel. I also noticed that the bees were in a similar position, back upwards and *head toward the opening*, and, although the partitions were destroyed, the raspings composing them lying on the lower side of the horizontal tunnel, the bees did not appear to have moved out of their original cell limits.

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[1] The departments of Ornithology and Mammalogy are conducted by Dr. Elliott Coues, U. S. A.